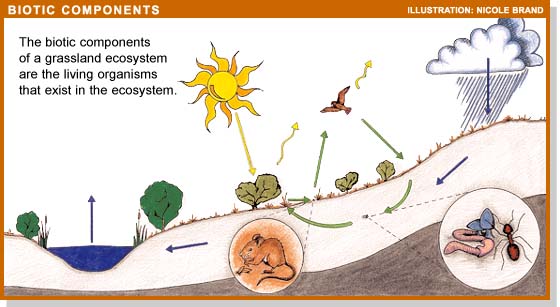
**Biotic Components**



The **biotic components** of a grassland ecosystem are the living organisms that exist in the system. These organisms can be classified as **producers,** **consumers** or **decomposers**.

**Producers** are able to capture the sun’s energy through photosynthesis and absorb nutrients from the soil, storing them for future use by themselves and by other organisms. Grasses, shrubs, trees, mosses, lichens, and cyanobacteria are some of the many producers found in a grassland ecosystem. When these plants die they provide energy for a host of insects, fungi and bacteria that live in and on the soil and feed on plant debris. Grasses are an important source of food for large grazing animals such as California Bighorn Sheep, Mule Deer and Elk, and for much smaller animals such as marmots, Pocket Gophers and mice.

**Consumers** are organisms that do not have the ability to capture the energy produced by the sun, but consume plant and/or animal material to gain their energy for growth and activity. Consumers are further divided into three types based on their ability to digest plant and animal material:

* **Herbivores** eat only plants, suchas the elk that graze the grasslands of the Columbia valley, or an insect nibbling on the leaf of a sticky geranium.
* **Omnivores** eat both plants and animals, such as the black bear.
* **Carnivores** eat only animals, such as the red-tailed hawk or western rattlesnake.

**Decomposers** include the insects, fungi, algae and bacteria both on the ground and in the soil that help to break down the organic layer to provide nutrients for growing plants. There are many millions of these organisms in each square metre of grassland.

**Soil** has many biotic functions in a grasslands ecosystem. It provides the material in which plants grow, holds moisture for plants to absorb, is the "recycling bin" for plant and animal matter, and provides an important habitat for soil organisms. Soil is a vital link between the biotic and abiotic parts of a grassland ecosystem.